

HIGH K DIELECTRIC FILM AND METHOD FOR MAKING

Abstract

A dielectric layer comprises lanthanum, aluminum, nitrogen, and oxygen and is formed between two conductors or a conductor and substrate. In one embodiment, the dielectric layer is graded with among the lanthanum, nitrogen, or aluminum. An additional insulating layer may be formed between the conductor or substrate and the dielectric layer. The dielectric layer can be formed by atomic layer chemical vapor deposition, physical vapor deposition, organometallic chemical vapor deposition or pulsed laser deposition.